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AUTHOR dePillis, S. E.; Singer, Harry
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ABSTRACT

A study examined whether the female superiority in reading achievement that exists in the United States is duplicated in a population that is genetically similar but culturally different from that of the United States. A sample of 4th and 6th grade students from Bielefeld, West Germany, and a sample of 4th and 6th grade students from Rialto, California, completed two different objective reading tests. Each group of subjects completed one test originally written in its native language and one test translated from the language of the other group of school children. Comparisons of reading achievement of American and German fourth and sixth graders revealed that American females achieved significantly higher scores than did American males in the sixth grade. However, German females and males do not significantly differ in reading achievement at the fourth or at the sixth grade level. These results suggest that females do not have superior verbal ability and that cultural rather than biological factors account for the high reading achievement of American females. (DF)

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Reading Achievement of German and American Females and Males at the Fourth and Sixth Grade Levels

by S. E. dePillis and Harry Singer
School of Education
University of California
Riverside, California 92521
(714) 787-5228

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American researchers have long observed that females score consistently higher than their male peers on reading achievement tests (NAEP 1985). Some researchers have attributed these differences to the possible influence of genetic predispositions in the process of reading (Dykstra and Tinney 1969; Smith and Carrigan 1959). Although differing levels of reading performance for males and females have been reported in various cultures (Downing, 1973), some investigators still maintain that the persistent superiority of females in reading becomes evident across cultural lines when females and males have equal educational opportunity (Thorndike 1962).

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PROBLEM

The purpose of this paper is to examine whether female superiority in reading achievement that exists in the United States is duplicated in a population which is genetically similar to that of the United States population but which is culturally different from it.

METHOD

Two samples of elementary school students took two different objective reading tests. One sample consisted of 4th and 6th grade students in Bielefeld, West Germany. The other sample was made up of 4th and 6th grade students from Rialto, California. Both groups were drawn from middle class, heterogeneous school groups. College preparatory or special schools (designated for either gifted or learning disabled) were not included. There was no significant difference between the mean ages of the two samples. The US sample totaled 161 (77 females and 84 males). The German sample totaled 269 (122 females and 147 males).

The test instruments were the Frankfurter Reading Comprehension Test Form Ia (Frankfurt, 1953) and the Gates Reading Survey for Grades 3 to 10 (Gates, 1939). The Frankfurter Reading Test was originally written in German while the Gates Test was first formulated in English. Each group of students, therefore, took one test originally written in its native tongue and one test translated from the language of the other group of school children.

FINDINGS

Comparison of scores achieved by US and German students on both the Frankfurter and Gates reading tests reveals a high correlation between both tests. The Pearson Correlation Coefficient for the Gates vs. the Frankfurter tests in the USA = .76 and in Germany = .87. Since the two tests apparently are measuring the same phenomena, we will report only results of the Gates test and its translation.

INSERT TABLE 1

A comparison of male to female achievement scores among American students was consistent with previous research: American females outscored American males. The gap between males and females grew as students progressed through school. US females outscored US males at the 4th grade but the difference was not statistically significant. At the 6th grade, however, the gap widened considerably and became statistically significant.

The next part of this inquiry deals with the question of female superiority in reading achievement across cultural lines. As Table 1 indicates, reading achievement scores of German females and German males are not significantly different. Further, even when the German group is examined separately at the 4th grade or at the 66th grade, the male-female difference in achievement scores is consistently insignificant. If anything, male-female scores among Germans draw even closer as students progress through school.

DISCUSSION

The findings of this study clearly indicate that factors other than genetics must be postulated to account for the persistent sex-correlated differences in reading achievement scores evidenced by US students. Our results indicate that while US males continue to be poorer readers than US females, German males and females evidence no significant difference in reading achievement. These findings are in agreement with those reported by Preston (1962). However, they do not support Thorndike's (1962) contention that females would demonstrate superior achievement in reading across cultural lines if females and males had equal opportunities to realize their educational potential. The difference in findings for the US and German samples suggest that cultural, not biological, factors can better explain these results.

US culture traditionally associates books and reading with female role (Brophy and Laosa, 1971). By contrast, Preston (1962) and others suggest that German culture traditionally ascribes reading activities to German males. Although our results, like Preston's, question the validity of the genetic predisposition hypothesis that males are inherently inferior in verbal abilities, the alternative cultural hypothesis that the female and male difference in reading achievement is environmentally determined is only an inference based upon contrasts in the American and German cultures. What needs to be obtained is more direct evidence that cultural differences mediate reading achievement. We have to construct a scale that will enable us to assess whether girls and boys of culturally

different but genetically similar populations have internalized culturally determined differences in their attitudes toward male and female roles. In addition, we must determine whether these attitudes are related to variations in reading achievement.

SUMMARY AND CONCLUSIONS

Comparisons of reading achievement of US and German fourth and sixth graders reveals that American females achieved significantly higher scores than do American males in the sixth grade. In contrast, German females and German males were not significantly different in reading achievement at the fourth or at the sixth grade level. These results confirm those found by Preston (1962). They do not, however, support Thorndike's (1962) hypothesis that females have superior verbal ability which is reflected in superior reading achievement.

Although the culture hypothesis for explaining the reading achievement superiority for US females over US males gains some support from our results, more direct evidence is needed to support this cultural hypothesis. The next step is to construct a scale that will enable us to assess the internalization of culturally determined influences and determine whether they mediate reading achievement. The present study provides the basis for undertaking this next step in our research program.

TABLE 1

US Reading Scores

Female vs. Male

	US FEMALE			US MALE			
	N	Mean	sd	N	Mean	sd	t
Total	74	45.91	12.74	80	41.87	13.04	1.94
Grade:							
Fourth	38	40.00	10.63	37	38.18	13.28	.65
Grade:							
Sixth	36	52.16	11.86	42	45.19	12.21	2.55*

NOTE: t* = statistically significant p .05

German Reading Scores

Female vs. Male

	GERMAN FEMALE			GERMAN MALE			
	N	Mean	sd	N	Mean	sd	t
Total	92	58.06	10.44	102	57.99	12.06	.0430
Grade: Fourth	43	51.67	10.53	41	49.90	12.44	.7050
Grade: Sixth	49	63.67	6.40	61	63.42	8.18	.1751

Note: At all levels the t-statistic is insignificant (p .05)

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